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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/619,630  | 07/16/2003  | George Antonopoulos  | 84696 3014 TAL      | 7285             |
| 20736   | 7590        | 12/02/2004           | EXAMINER            |                  |
| MANELLI DENISON & SELTER<br>2000 M STREET NW SUITE 700<br>WASHINGTON, DC 20036-3307 |             |                      | LAM, THANH          |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2834                |                  |

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/619,630 | <b>Applicant(s)</b><br>ANTONOPOULOS ET AL. |  |
|                              | <b>Examiner</b><br>Thanh Lam         | <b>Art Unit</b><br>2834                    |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Austermann (US 5,180,960).

Regarding claims 1 and 18, Austermann discloses a switched reluctance electrical machine comprising a salient pole stator (3) and a salient pole carrier (4) along with a plurality of coils (110,210,310) for association with magnetic means, the stator and the carrier configured to allow relative motion in use between the stator and carrier, each coil including a tap (see the last eight lines) to alter the effective number of turns in that coil dependent upon the speed of relative motion between the carrier and the stator and wherein a control device is provided and which monitors the power output of the machine.

Regarding claim 2, Austermann discloses the tap or taps are fixed in terms of the effective number of turns in its coils.

Regarding claim 3, Austermann discloses the tap is arranged to reduce the effective number of turns in its coils by approximately a third of the total number of turns in that coil.

Regarding claim 4, Austermann discloses the tap is individually determined for each coil of the plurality of coils in terms of incremental spacing to alter the effective number of turns in its coil.

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Regarding claim 5, Austermann discloses the tap is automatically adjusted relative to the carrier speed.

Regarding claim 6, Austermann discloses the tap is arranged to provide substantially the same effective number of turns in each coil of the plurality of coils.

Regarding claim 7, Austermann discloses the tap is manually adjustable in terms of the effective number of turns in its coil.

Regarding claim 8, Austermann discloses the tap is adjustable dependent upon historical performance of the machine in terms of carrier speed.

Regarding claim 9, Austermann discloses the tap is adjustable through a control loop relative to the current carrier speed.

Regarding claim 10, Austermann discloses the tap is switched into operation through an inertia switch dependent upon the carrier speed.

Regarding claim 11, Austermann discloses the tap ensures that the number of turns effective in the coil are those furthest from the stator pole tip.

Regarding claim 12, Austermann discloses the torque or power output from that electrical machine is substantially constant for a range of speed.

Regarding claim 13, Austermann discloses the carrier is a rotor.

Regarding claim 14, Austermann discloses the carrier is a linear beam.

Regarding claim 15, Austermann discloses relative motion in use is due to appropriately energising the coils in sequence to constitute an electric motor.

Regarding claim 16, Austermann discloses the relative motion in use is due to application of an external driving force in order to constitute an electric current generator.

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Regarding claim 17, Austermann discloses the magnetic means is permanent magnets or electro-magnetic assemblies configured in the carrier or stator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on m-f 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam  
Primary Examiner  
Art Unit 2834